Deepak Yadav

Consultant at Sony (AI and Machine Learning)
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Education

- **Indian Institute of Engineering Science And Technology** — Howrah, WB
  Master of Technology in Information Technology; GPA: (7.0/10.0) — *Aug. 2017 – June. 2019*
  - **Relevant Coursework**: Machine Learning, Algorithms, Information and Coding Theory, Advanced Database Management System.
- **United College of Engineering and Research** — Allahabad, UP
  Bachelor of Technology in Electronics and Communication Engineering; GPA:(6.8/10.0) — *Aug. 2010 – July. 2014*
  - **Relevant Coursework**: Signal and Systems, Microprocessors, VLSI Design and Embedded System.

Experience (4.5 years)

- **Sony** — Bengaluru, Karnataka
  Consultant — *Jun 2021 - Present*
  - **Objective**: Constructing a versatile framework to facilitate the effortless evaluation of the accuracy of diverse deep learning models on the IMX500 Intelligent Vision Sensor device.
  - **Contribution**: Developed a comprehensive framework capable of seamlessly accommodating various state-of-the-art machine learning models, including classification, object detection, and semantic segmentation. Assessed the accuracy of these models on IMX500 devices, ensuring reliable performance across different use cases.
  - **Tools**: Tensorflow, Pytorch, Scikit-learn, Python, Streamlit, Object-oriented design.
- **Activa Inc.** — Hyderabad, Telangana
  Associate Data Scientist — *Dec 2019 - Apr 2021*
  - **Objective**: Building an automated AI platform that works with tabular data, raw text, time series, and images.
  - **Contribution**: Automated the time series forecasting pipeline using a genetic algorithm, resulting in a significant reduction in training time. Implemented distributed training across multiple GPUs for performance optimization. Deployed models automatically across a variety of environments, including creating a REST endpoint and running as a service in the cloud.
  - **Tools**: Tensorflow, Pytorch, Scikit-learn, Python, Docker, Flask, AWS EC2, AWS Kinesis, REST, CI/CD.
- **Activa Inc.** — Hyderabad, Telangana
  Data Science Intern — *Aug 2019 - Dec 2019*
  - **Objective**: Developed a proof of concept (PoC) for United Technologies Corp. (UTC) to automate aircraft engine internal crack detection.
  - **Contribution**: Built a computer vision model using Mask-RCNN that can easily detect cracks in the internal parts of the engine.
  - **Tools**: Computer Vision, Object Detection, Instance Segmentation, Mask-RCNN, Python, Tensorflow, OpenCV.
- **IIEST Shibpur** — Howrah, WB
  Postgraduate Researcher — *July 2018 - June 2019*
  - **Objective**: Fault Detection in Wireless Sensor Networks (WSNs).
  - **Contribution**: Conducted a comprehensive comparative analysis of statistical and machine learning methods for fault detection in Wireless Sensor Networks (WSNs). Developed a robust algorithm that effectively identifies faulty nodes in WSNs, resulting in enhanced accuracy compared to existing methods. The designed algorithm significantly improves the detection capabilities, providing a reliable solution for fault identification in WSNs.
  - **Tools**: Python, Machine Learning, Statistics, IoT, Sensor Networks.

Open Source Projects

- **Robustbase**: Open Source Python library for statistical estimation with 23,000+ downloads.
- **HyperTune**: Open source hyper-parameter optimization library using genetic algorithms.
- **WSNFault**: Statistical fault detection algorithm for Wireless Sensor Networks (WSNs).
- **downcast**: Automatic reduction of pandas data frame size with 44,000+ downloads.
- **complex**: Compute complex number operations: addition, subtraction, multiplication, division, and modulus with 32,000+ downloads.